

CLAIMS

What is claimed is:

1. An impact protection system for building openings, the system comprising:
 - a shutter having a shutter frame including two opposing elongated frame members having facing openings;
 - shutter blades extending between the two lateral frame members along blade axes and having ends positioned in the facing openings;
 - the shutter blades being angled relative to longitudinal axes of the frame members and spaced along the longitudinal axes of the frame members;
 - whereby the shutter blades provide a louvered appearance on one side and provide access to the facing openings adjacent the shutter blades on the opposing side for insertion of bracing clips when the shutter is arranged for impact protection; and
 - a hinge provided along one of the lateral frame members for mounting the shutter to a wall adjacent an opening to be protected, the hinge permitting the shutter to pivot between an open position against the wall, in which a front face of the shutter is exposed outwardly from the wall and a rear face of the shutter faces the wall, and a closed position over the opening, in which the front face faces the opening and the rear face is exposed outwardly from the opening;
 - in the closed position, said facing openings including access areas adjacent the shutter blades on the exposed rear face of the shutter.

1 2. The system according to Claim 1, further including a storm bar for extending
2 across the shutter and mounting to the wall on opposite sides of the opening;
3 a storm bar clip secured to the storm bar and having a shutter insert for insertion into the
4 access area to secure the storm bar to the shutter; and
5 a wall mount for securing the storm bar to the wall on opposite sides of the opening,
6 whereby the storm bar can be secured to the shutter without the use of bolts or other
7 removable fasteners.

1 3. The system of Claim 2, wherein the wall mount includes a U-shaped receptacle for
2 removably receiving the storm bar and a wall bracket to be secured to the wall and removably
3 securing the U-shaped receptacle, said wall bracket providing a groove, said U-shaped receptacle
4 providing a base that removably slides into said groove of said wall bracket, said U-shaped
5 receptacle base being wider than a width of said storm bar, said U-shaped receptacle being
6 formed by the extension of two from said base, whereby the base provides a portion of the U and
7 provides a wide and secure base for holding the storm bar to the wall.

1 4. The system of Claim 1, wherein there are at least two of the shutters.

1 5. The system of Claim 1, wherein the openings of the lateral frame members are each
2 defined by a U-shaped cross section of the elongated frame member having two side walls and a
3 terminal wall, and the blades each have end flanges extending from the longitudinal edges of the
4 blade, the flanges engaging the side walls and the blades being angled relative to the flanges and

5 the side walls.

1 6. The system of Claim 2, further comprising a connection flange for connecting with an
2 adjacent blade.

1 7. The system of Claim 8, wherein the connection flange and the adjacent blade are
2 removably connected.

1 8. The system of Claim 9, wherein the connection flange and the adjacent blade are joined
2 by a tongue and groove connection.

1 9. The system of Claim 10, wherein the connection flange is formed with the adjacent blade
2 over a series of blades.

1 10. A shutter for an impact protection system for building openings, comprising:
2 a shutter frame including two opposing elongated frame members having facing
3 openings;
4 shutter blades extending between the two lateral frame members along blade axes and
5 having ends positioned in the facing openings; and
6 the shutter blades being angled along the blade axes relative to the longitudinal axes of
7 the frame members and spaced along the frame members;
8 whereby the shutter blades provide a louvered appearance on one side and provide access

to the facing openings adjacent the shutter blades on the opposing side for insertion of bracing clips when the shutter is arranged for impact protection.

11. The shutter of claim 12, wherein the openings of the lateral frame members are each defined by a U-shaped cross section of the elongated frame member having two side walls and a terminal wall, and the blades each have end flanges extending from the longitudinal edges of the blade, the flanges engaging the side walls and the blades being angled relative to the flanges and the side walls.

12. The shutter of Claim 11, further comprising a connection flange for connecting with an adjacent blade.

13. The shutter of Claim 12, wherein the connection flange and the adjacent blade are removably connected.

14. The shutter of Claim 13, wherein the connection flange and the adjacent blade are joined by a tongue and groove connection.

15. The shutter of Claim 14, wherein the connection flange is formed with the adjacent blade over a series of blades.

1 16. A shutter blade assembly, comprising:

2 a first shutter blade and an adjacent shutter blade, each having:

3 an elongated blade body;

4 at least one side flange extending at an angle from said blade body, said side flange being
5 adapted to engage a shutter frame and position said blade body at an angle relative to the shutter
6 frame;

7 a connecting flange extending at an angle from the side flange along its length on a side
8 opposite the blade body;

9 said connecting flange of the first shutter blade being adapted to connect to the adjacent
10 shutter blade.

11 17. The shutter blade assembly of Claim 16, wherein the connecting flange of the first shutter
12 blade is permanently connected to the adjacent shutter blade.

13 18. The shutter blade assembly of Claim 16, further comprising a third shutter blade having
14 an elongated blade body; said blade body have an angled side flange extending therefrom and a
15 connecting flange extending from the side flange;

16 wherein the connecting flange of the adjacent blade is permanently connected to the
17 connecting portion of the third blade, whereby a triple shutter blade assembly is provided and
18 having a connecting flange and connecting portion available for connection to further shutter
19 blades.

1 19. The shutter blade assembly of Claim 16, wherein the connecting flange of the first shutter
2 blade is permanently affixed at its end to the adjacent shutter blade.

1 20. The shutter blade assembly of Claim 16, wherein the connecting flange of the first shutter
2 blade is removably connected to the adjacent shutter blade.

1 21. The shutter blade assembly of Claim 20, wherein the connecting flange of the first shutter
2 blade has a tongue connector and the adjacent shutter blade body has a mating groove for
3 receiving the tongue connector.

1 22. The shutter blade assembly of Claim 16, wherein each blade further comprises a second
2 side flange extending from a longitudinal edge of the blade body opposite said connecting flange,
3 said side flanges being generally planar and parallel.

1 23. A shutter blade, comprising:
2 an elongated blade body;
3 at least one side flange extending from a longitudinal edge of the blade body at an angle,
4 whereby when mounted in a shutter frame, the blade body can be positioned at an angle to the
5 shutter frame;
6 a connecting flange extending at an angle from the side flange along its length on a side
7 opposite the blade body;
8 said connecting flange having connecting structure to connect to another shutter blade.